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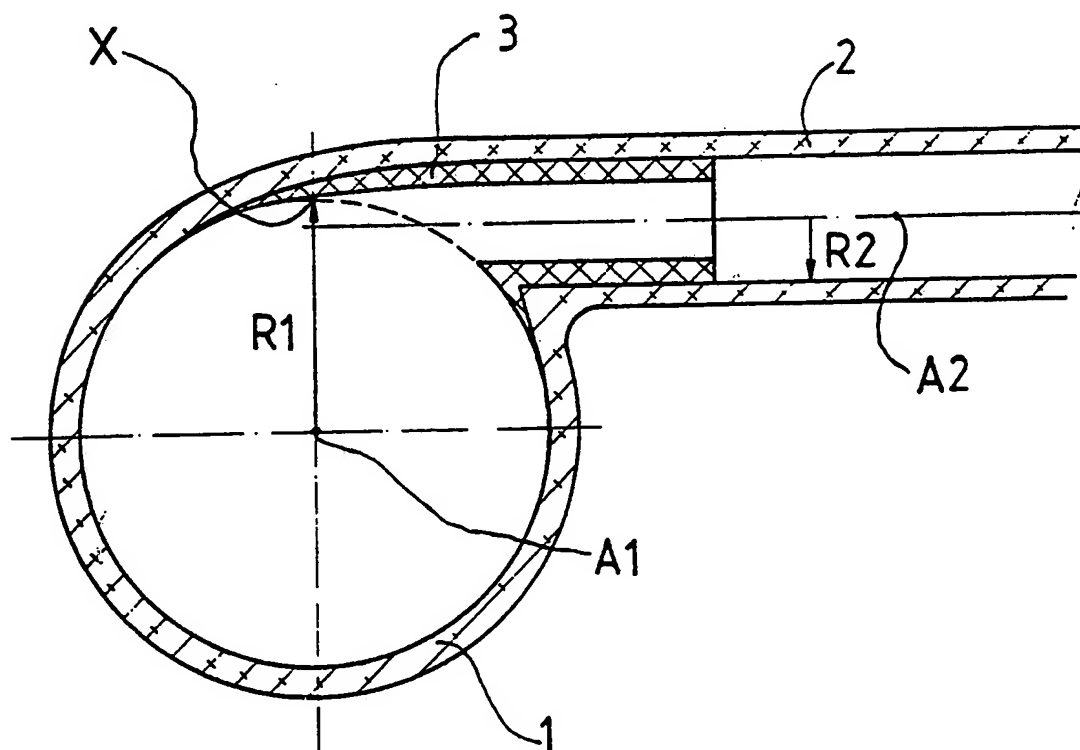
F2G

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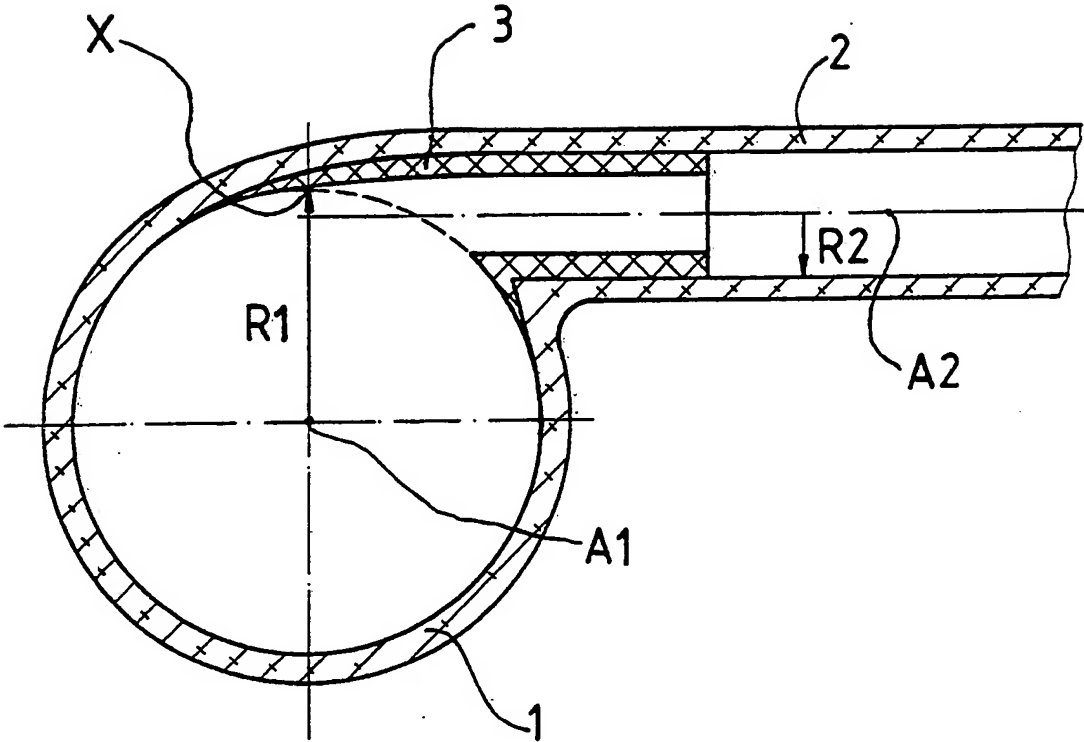
F16L

(54) **A branched hose, especially a radiator hose for a motor vehicle**

(57) A hose formed from rubber or rubber-like plastics materials which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose, in which the branch hose (2) is attached to the main hose (1) to such an eccentric extent that its central axis (A2) intersects the associated radius (R1) of the inside wall of the main hose (1) in the region of its outer extremity (X), the radius (R1) extending at right angles to the central axis (A2).



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A hose, especially a radiator hose for a  
motor vehicle

5           The present invention relates to a hose formed from  
rubber or rubber-like plastics materials - especially  
a radiator hose for a motor vehicle - which comprises  
a main hose and a laterally attached branch hose which is  
materially joined to the main hose. Numerous embodiments  
10 of such hoses are known, their common factor being that  
the branch hose in each case is attached to the main hose  
centrally, that is to say, it is attached to the main  
hose in such a manner that its central axis intersects  
the central axis of the main hose. This T-shaped  
15 arrangement with the branch hose may give rise to  
installation problems if it is necessary to attach the  
branch hose to the highest or lowest point of the cross-  
section of the main hose because, on the one hand, it is  
to serve as a vent hose or as a hose for discharging  
20 sediments which settle at the bottom of the main hose  
and because, on the other hand, there is no space  
available either above or below the main hose for an  
angular configuration of the branch hose.

25           It is an object, therefore, of the invention to  
provide a hose junction so that the above-mentioned  
installation problems do not arise.

30           According to the present invention there is  
provided a hose formed from rubber or rubber-like  
plastics materials which comprises a main hose and a  
laterally attached branch hose which is materially  
joined to the main hose, in which the branch hose is  
attached to the main hose to such an eccentric extent  
35 that its central axis intersects the associated radius  
of the inside wall of the main hose in the region of

its outer extremity, the radius extending at right angles to the central axis.

5 It will thus be seen that the branch hose  
therefore is attached tangentially relative to the  
circumferential line of the main hose. In preferred  
embodiments of the invention, the inside width of  
the branch hose is, at most, half as large as the  
inside width of the main hose, and the region of  
10 attachment for the branch hose extends from the upper  
or lower vertical point of the cross-section of the  
main hose, at most over the upper or lower half of the  
main hose. In addition, it may be advantageous to  
provide the branching-off portion or junction region  
15 with a shaped piece of plastics material or rubber which  
is moulded to fit therein and spans the junction  
between the two hoses, such a shaped piece being  
materially joined to the inside wall both of the main  
hose and of the branch hose. This shaped piece of  
20 plastics material or rubber may advantageously act as  
a flow throttle, due to the fact that it has a smaller  
inside width than the branch hose.

25 The accompanying drawing illustrates the present  
invention with reference to one embodiment.

The branch hose 2 is attached to the illustrated  
main hose 1 in such a manner that its central axis A2  
intersects the associated radius R1 of the inside wall  
30 of the main hose 1 in the region of its outer extremity  
X, the radius R1 extending at right angles to the  
central axis A2. This arrangement ensures that the  
branch hose is thereby attached at the highest point  
of the main hose and can thus serve, for example, to  
35 remove air from the main hose. In such a case, the  
inside radius R2 of the branch hose 2 is clearly smaller

than half the inside radius R1 of the main hose 1,  
and the central axis A2 of the branch hose 2  
intersects the associated inside radius R1 of the main  
hose 1 in the region of its outer extremity X. This  
point of intersection is removed from the outer  
extremity X of the radius R1 by a distance  
corresponding to less than the length of the radius  
R2 in the direction of the central axis A1 of the  
main hose.

Both for technical reasons relating to  
manufacture and also in order to improve the intrinsic  
properties, a shaped piece of plastics material or  
rubber 3 is inserted into the branching-off region  
of the illustrated hose; in the illustrated  
embodiment, the shaped piece 3 has a smaller inside  
width than the branch hose, so it acts as a flow throttle.

CLAIMS

1. A hose formed from rubber or rubber-like plastics materials which comprises a main hose and a laterally attached branch hose which is materially joined to the main hose, in which the branch hose is attached to the main hose to such an eccentric extent that its central axis intersects the associated radius of the inside wall of the main hose in the region of its outer extremity, the radius extending at right angles to the central axis. .
2. A hose as claimed in claim 1, wherein the length of the inside radius of the branch hose is not greater than half the length of the inside radius of the main hose.
3. A hose as claimed in claim 1 or 2, wherein the point of intersection between the central axis of the branch hose and the associated radius of the main hose is removed from the extremity of the inside radius by a distance corresponding, at most, to the length of the inside radius.
4. A hose as claimed in any of claims 1 to 3, wherein the branching-off portion contains a shaped piece of plastics material or rubber which spans the junction between the main hose and the branch hose and is materially connected to the inside wall both of the main hose and of the branch hose.
5. A hose as claimed in claim 4, wherein the shaped piece of plastics material or rubber has a smaller inside width than the branch hose.

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6. A hose formed from rubber or rubber-like plastics materials, substantially as hereinbefore described with reference to the accompanying drawing.

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